

Visualisation Interface
to the
Virtual Observatory

VisIVO



Visualizing Multi-Dimensional Astrophysical Data: VisIVO and interoperability

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VisIVO

Visualization Interface for the Virtual Observatory

VisIVO is a visualization package developed in collaboration between INAF (Catania Astrophysical Observatory) and CINECA (the largest Italian academic supercomputing center) with the specific object of supporting visualization and analysis of astrophysical data. The package is written in C++.

VisIVO: Italian Contribution to the VO-TECH – DS6: Data Exploration (Data Mining + Visualization)

The **VOtech** project aims at completing all technical preparatory work necessary for the construction of the European Virtual Observatory (Euro-VO).

VisIVO

Visualization Interface for the Virtual Observatory

VisIVO can be used both as a stand-alone application, that acts on local files, and as an interface to the Virtual Observatory framework, from which it can retrieve the data.

NEW 0.9 release is now available:

<http://visivo.cineca.it/>

<http://visivo.oact.inaf.it/>

VisIVO

main features

- VO compliant
- supported file formats
 - **RAW binary format** (particles and grids)
 - **HDF5** format (subset for particles)
 - **FITS** format (tables and cubes)
 - **VOTables**
- Interoperability
 - PLASTIC
 - External grid enabled web serviced tools
- free software

PLASTIC & VisIVO

(Platform for Astronomical Tool InterConnection)

- Interoperability with other VO compliant tools:
 - PLASTIC
 - Topcat
 - Aladin
 - xmdv-lite
 - TabView - A simple Table Viewer based on STIL.
 - VAST - A SIAP access tool that uses Plastic to load images in Aladin

Interoperability

The screenshot displays three software windows on a desktop environment:

- Aladin v3.0 multiview *** WARNING: this is a beta release (v3.053)...**: Shows a large field of red points forming a circular pattern. The interface includes a menu bar (Load..., Save..., Tools..., PLASTIC..., Print..., Help..., Quit) and a toolbar with icons for zooming and other functions. A status bar at the bottom shows coordinates: RAJ2000 17.305811000000002, DEJ2000 15.403807, Ucmag 11.7, pmRA -13.0, pmDE -9.3.
- xmdv_light: plasticized**: A window showing a 3D visualization of a green surface with several vertical lines and a purple shaded area. The title bar indicates the file is 'PLASTIC'.
- VisIVO - [PolyData Viewer]**: A window showing a 3D visualization of a dark space with several yellow points. The interface includes a menu bar (File, Edit, View, Operations, Preferences, Window) and a right-hand panel with a 'vme hierarchy' tree and 'Point data' table.

Point data table from VisIVO:

RAJ2000	DEJ2000	Ucmag	_OID	pmRA	pmDE
65.59221500000001	17.305811000000002	15.403807	11.7	-13.0	-9.3
65.92949116457795	17.511439	-5.6			
66.13402218359191000000003	13.9716546	17.9	-11.0		
66.67083799999997	16.603277000000002	14.33	2926	6.2	-8.9
65.74276900000001	16.786749999999998	14.61	2571	6.6	-9.3
64.660845999999995	17.841604	9.59	4962	3.1	-13.1

Web Site

Visualisation Interface
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VisIVO



<http://visivo.cineca.it/>

<http://visivo.oact.inaf.it/>

PLASTIC Messages in VisIVO

- ApplicationRegistered Sent by the hub when an application registers
- ApplicationUnregistered Send by the hub when an application unregisters
- HubStopping Sent by the hub before it shuts down
- Echo Echos text
- getName A human-readable name e .g VisIVO
- getVersion The version of PLASTIC supported.
- getIconURL A URL to an icon for the application. The icon can be of any size, and any of png, jpg and gif. It's up the client to resize it if necessary.



PLASTIC Messages in VisIVO (VOTables related)

- `loadFromURL` Load a VOTable from the supplied URL. This URL is then used as its identifier for subsequent messages.
- `showObjects` Highlight the selected VOTable objects in the table with that id. Returns false if the application doesn't have that table loaded

